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L4 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2001 ACS
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AN 2001:573269 CAPLUS

DN 135:152805

TI Preparation of benzimidazoles as ORL1-receptor agonists for analgesics

IN Ito, Fumitaka; Noguchi, Hirohide; Ohashi, Yoriko; Shimokawa, Hirohisa

PA Pfizer Pharmaceutical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 39 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

LH4: OH I					
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ΡI	JP 2001213878	A2	20010807	JP 2000-396414	20001227
	EP 1122257	A1	20010808	EP 2000-311316	20001218
				R, GB, GR, IT, LI, LU,	NL, SE, MC, PT,
	IE, SI,	LT, LV	, FI, RO		
	BR 2001000014	Α	20010828	BR 2001-14	20010104
PRAI	US 2000-174542	P	20000105		
OS GT	MARPAT 135:15280	05			

$$\mathbb{A}^{R^1-A}$$

Title compds. I [R1 = C3-11 cycloalkyl, C6-16 bicycloalkyl, C6-16 tricycloalkyl, C8-16 tetracycloalkyl, etc.; A = (un)substituted C1-7 alkyl, C2-5 alkenyl, C2-5 alkynyl, aryl, etc.; M = single bond, CH2,0, S, S0, S02, C0, NH, etc.; Y = 4- to 12-membered bicyclic carbon ring, 4- to 12- membered bicyclic hetero ring, 5- to 17-membered spiro carbon ring, 5- to 17-membered spiro hetero ring; Z1-Z4 = (un)substituted C1-4 alkyl, C1-4 alkoxy, C1-4 alkylsulfonyl, C1-4 alkylcarbonyl, carboxy, etc.] or their salts are prepd. Tert-Bu 3-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-3,8-diazabicyclo[3.2.1]octane-8-carboxylate was treated with F3CCO2H in CH2Cl2 at room temp. for 0.5 h to give 77.6% 2-(3,8-diazabicyclo[3.2.1]oct-3-yl)-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazole HCl salt.

IT 352541-90-3

RL: RCT (Reactant)

(prepn. of benzimidazoles as ORL1-receptor agonists for analgesics)

RN 352541-90-3 CAPLUS

CN 2,5-Diazabicyclo[2.2.1]heptane-2-carboxylic acid, 5-[[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]methyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

IT 352541-75-4P 352542-61-1DP, mesylate

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. of benzimidazoles as ORL1-receptor agonists for analgesics)

RN 352541-75-4 CAPLUS

CN 3,8-Diazabicyclo[3.2.1]octane-8-carboxylic acid, 3-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 352542-61-1 CAPLUS

CN Pyrrolo[3,4-c]pyrrole-2(1H)-carboxylic acid, hexahydro-1-(hydroxymethyl)-5-

[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, 1,1-dimethylethyl ester, (1R, 3aS, 6aR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

IT 352541-97-0P

RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of benzimidazoles as ORL1-receptor agonists for analgesics)

RN 352541-97-0 CAPLUS

CN 1,4-Diazaspiro[5.5]undecane, 4-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-

1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

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ΙT
              352541-94-7P 352541-95-8P 352541-99-2P
               352542-01-9P 352542-03-1P 352542-05-3P
               352542-07-5P 352542-09-7P 352542-11-1P
               352542-13-3P 352542-15-5P 352542-17-7P
              352542-19-9P 352542-20-2P 352542-21-3P
               352542-22-4P 352542-23-5P 352542-24-6P
               352542-25-7P 352542-26-8P 352542-27-9P
              352542-28-0P 352542-29-1P 352542-30-4P
              352542-32-6P 352542-33-7P 352542-34-8P
               352542-35-9P 352542-36-0P 352542-38-2P
              352542-39-3P 352542-40-6P 352542-41-7P
              352542-42-8P 352542-43-9P 352542-44-0P
              352542-45-1P 352542-46-2P 352542-47-3P
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              352542-51-9P 352542-52-0P 352542-53-1P
              352542-54-2P 352542-55-3P 352542-56-4P
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              352542-57-5P 352542-59-7P 352542-60-0P
              RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological
              study); PREP (Preparation); USES (Uses)
                        (prepn. of benzimidazoles as ORL1-receptor agonists for analgesics)
RN
               352541-94-7 CAPLUS
              1H-Benzimidazole, 2-(3,8-\text{diazabicyclo}[3.2.1]\text{oct}-3-yl)-1-[1-(1-yl)]
CN
              phenylcycloheptyl)-4-piperidinyl]-, monohydrochloride (9CI) (CA INDEX
              NAME)
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⊕ HCl

RN 352541-95-8 CAPLUS

CN 1H-Benzimidazole, 2-(8-methyl-3,8-diazabicyclo[3.2.1]oct-3-yl)-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 352541-99-2 CAPLUS

CN 1,4-Diazaspiro[5.5]undecane, 1-methyl-4-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

RN 352542-01-9 CAPLUS

CN 1H-Benzimidazole, 2-(1R,4R)-2,5-diazabicyclo[2.2.1]hept-2-yl-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

HCl

RN 352542-03-1 CAPLUS

CN 1H-Benzimidazole, 2-(1R,4R)-2,5-diazabicyclo[2.2.1]hept-2-yl-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 352542-05-3 CAPLUS

CN 1H-Benzimidazole, 2-[(1R,4R)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]-1-

[1-(1-phenylcycloheptyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 352542-07-5 CAPLUS
CN 1H-Benzimidazole, 2-[(1R,4R)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]1[1-(1-phenylcycloheptyl)-4-piperidinyl]-, monohydrochloride (9CI) (CA
INDEX NAME)

Absolute stereochemistry.

HC1

RN 352542-11-1 CAPLUS
CN 1H-Benzimidazole, 2-(hexahydro-5-methylpyrrolo[3,4-c]pyrrol-2(1H)-yl)-1-

[1 (1-phenylcycloheptyl)-4-piperidinyl]-, monohydrochloride (9CI) (CA
INDEX
 NAME)

● HCl

RN 352542-15-5 CAPLUS
CN 1,4-Diazaspiro[5.5]undecane, 4-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]1H-benzimidazol-2-yl]-, monohydrochloride (9CI) (CA INDEX NAME)

⊕ HCl

RN 352542-17-7 CAPLUS

CN 1H-Benzimidazole, 2-(1R,4R)-2,5-diazabicyclo[2.2.1]hept-2-yl-1-[1-(1-methylcyclooctyl)-4-piperidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

● HCl

RN 352542-19-9 CAPLUS

CN 1H-Benzimidazole, 2-(1R,4R)-2,5-diazabicyclo[2.2.1]hept-2-yl-1-[1-(1-methylcyclooctyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 352542-20-2 CAPLUS

CN 1H-Benzimidazole, 2-(hexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl)-1-[1-(1-methylcyclooctyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 352542-21-3 CAPLUS

CN 1H-Benzimidazole, 2-(hexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl)-1-[1-(1-methylcyclooctyl)-4-piperidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

HC1

RN 352542-22-4 CAPLUS

CN 1H-Benzimidazole, 2-(hexahydro-5-methylpyrrolo[3,4-c]pyrrol-2(1H)-yl)-1-[1-

(1-methylcyclooctyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 352542-23-5 CAPLUS

CN 1H-Benzimidazole, 2-(hexahydro-5-methylpyrrolo[3,4-c]pyrrol-2(1H)-yl)-1-

[1-(1-methylcyclooctyl)-4-piperidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

HCl

RN 352542-24-6 CAPLUS

CN 1H-Benzimidazole, 2-(hexahydropyrrolo[3,4-b]pyrrol-5(1H)-yl)-1-[1-(1-methylcyclooctyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 352542-25-7 CAPLUS

CN 1H-Benzimidazole, 2-(hexahydropyrrolo[3,4-b]pyrrol-5(1H)-yl)-1-[1-(1-methylcyclooctyl)-4-piperidinyl]-, monohydrochloride (9CI) (CA INDEX

NAME)

● HCl

RN 352542-26-8 CAPLUS

CN 1H-Benzimidazole, 2-(hexahydropyrrolo[3,4-b]pyrrol-1(2H)-yl)-1-[1-(1-methylcyclooctyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 352542-27-9 CAPLUS

CN 1H-Benzimidazole, 2-(hexahydropyrrolo[3,4-b]pyrrol-1(2H)-yl)-1-[1-(1-methylcyclooctyl)-4-piperidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

⊕ HCl

RN 352542-28-0 CAPLUS

CN 3-Azabicyclo[3.1.0]hexan-6-amine, 3-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, (1.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

RN 352542-29-1 CAPLUS

CN 3-Azabicyclo[3.1.0]hexan-6-amine, 3-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, monohydrochloride, (1.alpha.,5.alpha.,6.alpha.)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

⊕ HCl

RN 352542-30-4 CAPLUS

CN 1H-Benzimidazole, 2-(3,8-diazabicyclo[3.2.1]oct-3-yl)-1-[1-(1-methylcyclooctyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 352542-32-6 CAPLUS

CN 1H-Benzimidazole, 2-(3,8-diazabicyclo[3.2.1]oct-3-yl)-1-[1-(1-methylcyclooctyl)-4-piperidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

⊕ HCl

RN 352542-33-7 CAPLUS

CN 1H-Benzimidazole, 2-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-1-

[1- (1-methylcyclooctyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 352542-34-8 CAPLUS

CN 1H-Benzimidazole, 2-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-1-

[1-(1-methylcyclooctyl)-4-piperidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

HCl

RN 352542-35-9 CAPLUS

CN 2H-Pyrido[1,2-a]pyrazine, octahydro-2-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

RN 352542-36-0 CAPLUS

CN 2H-Pyrido[1,2-a]pyrazine, octahydro-2-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, monohydrochloride (9CI) (CA INDEX NAME)

⊕ HCl

RN 352542-38-2 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-methylcyclooctyl)-4-piperidinyl]-2-(octahydro-

2Hpyrrolo[3,4-c]pyridin-2-yl)- (9CI) (CA INDEX NAME)

RN 352542-39-3 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-methylcyclooctyl)-4-piperidinyl]-2-(octahydro-2H-

pyrrolo[3,4-c]pyridin-2-yl)-, monohydrochloride (9CI) (CA INDEX NAME)

⊕ HCl

RN 352542-40-6 CAPLUS
CN 1H-Benzimidazole, 1-[1-(1-methylcyclooctyl)-4-piperidinyl]-2-(octahydro-6H-

pyrrolo[3,4-b]pyridin-6-yl)- (9CI) (CA INDEX NAME)

RN 352542-41-7 CAPLUS
CN 1H-Benzimidazole, 1-[1-(1-methylcyclooctyl)-4-piperidinyl]-2-(octahydro-6Hpyrrolo[3,4-b]pyridin-6-yl)-, monohydrochloride (9CI) (CA INDEX NAME)

#C1

RN 352542-42-8 CAPLUS
CN Pyrrolo[3,4-c]pyrrole-1-methanol, 1,2,3,5-tetrahydro-5-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, (1S)- (9CI)
(CA
INDEX NAME)

RN 352542-43-9 CAPLUS

CN Pyrrolo[3,4-c]pyrrole-1-methanol, 1,2,3,5-tetrahydro-5-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, monohydrochloride, (1S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

● HCl

RN 352542-44-0 CAPLUS

CN Methanesulfonamide, N-[[(1S)-1,2,3,5-tetrahydro-5-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]pyrrolo[3,4-c]pyrrol-

1-yl]methyl]- (9CI) (CA INDEX NAME)

RN 352542-45-1 CAPLUS

CN Methanesulfonamide, N-[[(1S)-1,2,3,5-tetrahydro-5-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]pyrrolo[3,4-c]pyrrol-

1-yl]methyl]-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

⊕ HCl

RN 352542-46-2 CAPLUS

CN Acetamide, N-[[(1S)-1,2,3,5-tetrahydro-5-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]pyrrolo[3,4-c]pyrrol-1-yl]methyl](9CI)

(CA INDEX NAME)

RN 352542-47-3 CAPLUS

CN Acetamide, N-[[(1S)-1,2,3,5-tetrahydro-5-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]pyrrolo[3,4-c]pyrrol-1-yl]methyl]-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

HCl

RN 352542-48-4 CAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,3(2H,3aH)-dione, tetrahydro-5-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

RN 352542-49-5 CAPLUS
CN Pyrrolo[3,4-c]pyrrole-1,3(2H,3aH)-dione, tetrahydro-5-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-,
monohydrochloride

(9CI) (CA INDEX NAME)

⊕ HCl

#C1

RN 352542-52-0 CAPLUS
CN 1H-Benzimidazole, 2-[(5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl)methyl]1[4-phenyl-1-(1-phenylcycloheptyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 352542-53-1 CAPLUS
CN 1H-Benzimidazole, 2-[(5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl)methyl]1[4-phenyl-1-(1-phenylcycloheptyl)-4-piperidinyl]-, monohydrochloride
(9CI)
(CA INDEX NAME)

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⊕ HCl

RN 352542-54-2 CAPLUS

CN 1H-Benzimidazole, 2-[(8-methyl-8-azabicyclo[3.2.1]oct-3-yl)oxy]-1-[1-(1-methylcyclooctyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 352542-55-3 CAPLUS

CN 1H-Benzimidazole, 2-[(8-methyl-8-azabicyclo[3.2.1]oct-3-yl)oxy]-1-[1-(1-methylcyclooctyl)-4-piperidinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

(HC1

RN 352542-56-4 CAPLUS

CN 2H-Indol-2-one, octahydro-1-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-

1H-

benzimidazol-2-yl]-, (3aR,7aR)- (9CI) (CA INDEX NAME)

RN 352542-57-5 CAPLUS

CN 2H-Indol-2-one, octahydro-1-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-

1H-

benzimidazol-2-yl]-, monohydrochloride, (3aR,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 352542-59-7 CAPLUS

CN 2H-Indol-2-one, octahydro-1~[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-

1H-

benzimidazol-2-yl]-, (3aS,7aS)- (9CI) (CA INDEX NAME)

RN 352542-60-0 CAPLUS
CN 2H-Indol-2-one, octahydro-1-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]1Hbenzimidazol-2-yl]-, monohydrochloride, (3aS,7aS)- (9CI) (CA INDEX

NAME)

 ${\bf Absolute \ stereochemistry.}$

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ANSWER 2 OF 2 CAPLUS COPYRIGHT 2001 ACS
L4
ΑN
     2000:117042 CAPLUS
DN
     132:151821
     Preparation of 2-substituted-1-piperidylbenzimidazoles as ORL1 receptor
ΤI
     agonists.
     Ito, Fumitaka; Noguchi, Hirohide; Kondo, Hiroshi
IN
     Pfizer Pharmaceuticals Inc., Japan; Pfizer Inc.
PΑ
     PCT Int. Appl., 127 pp.
     CODEN: PIXXD2
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                       A3
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            AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,
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             MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,
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             MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,
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             CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                                            19990705
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                                           EP 1999-926688
                                                            19990705
     EP 1102762
                       A2
                            20010530
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                                                            20010205
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                                           NO 2001-603
     NO 2001000603
                       Α
PRAI WO 1998-IB1206
                       W
                            19980806
                            19990705
     WO 1999-IB1239
                       W
OS
     MARPAT 132:151821
GΙ
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$$z^{1}$$
 z^{2}
 z^{2}
 z^{2}
 z^{2}

Ι

Title compds. [I; R = (substituted) mono-, di-, tri-, or tetracycloalkyl; A = alkyl, haloalkyl, alkenyl, alkynyl, (substituted) phenylalkyl, aryl, heteroaryl, heterocyclyl; Y = H, halo, amino, SH, (substituted) alkyl-M, cycloalkyl-M, alkenyl-M, alkyl-NH-alkyl-M, dialkyl-N-alkyl-M, aryl-M, heterocyclyl-M, arylalkyl-M, etc.; M = bond, O, S, NH S, SO, SO2, etc.; Z1-Z4 = H, halo, alkyl, haloalkyl, alkoxy, alkylsulfonyl, alkylcarbonyl, CO2H, amino, H2NCO, Ph, naphthyl, etc.], were prepd. as ORL1 receptor agonists (no data). Thus, 2-chloro-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]benzimidazole (prepn. given) was stirred with MeNH2 in MeOH in an autoclave at 110.degree. for 6 h to give N-methyl-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-

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2-amine.
IT
     258286-77-0P 258286-79-2P 258286-80-5P
     258286-84-9P 258286-87-2P 258286-88-3P
     258286-98-5P 258286-99-6P 258287-00-2P
     258287-07-9P 258287-08-0P 258287-09-1P
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     258288-32-3P 258288-33-4P 258288-40-3P
     258288-42-5P 258288-44-7P 258288-46-9P
     258288-50-5P 258288-51-6P 258288-56-1P
     258288-57-2P 258288-74-3P 258288-79-8P
     258289-05-3P 258289-06-4P
     RL: BAC (Biological activity or effector, except adverse); SPN
(Synthetic
     preparation); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); USES (Uses)
        (prepn. of 2-substituted-1-piperidylbenzimidazoles as ORL1 receptor
        agonists)
     258286-77-0 CAPLUS
RN
     1H-Benzimidazole, 2-(4-methyl-1-piperazinyl)-1-[1-(1-phenylcycloheptyl)-
CN
     4-piperidinyl]- (9CI) (CA INDEX NAME)
                  Ph
RN
     258286-79-2 CAPLUS
CN
     1H-Benzimidazole, 2-(4-methyl-1-piperazinyl)-1-[1-(1-phenylcyclooctyl)-
     4-piperidinyl]- (9CI) (CA INDEX NAME)
```

RN 258286-80-5 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(4-piperidinyl)- (9CI) (CA INDEX NAME)

RN 258286-84-9 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-methylcyclooctyl)-4-piperidinyl]-2-(4-methyl-

1-

piperazinyl) - (9CI) (CA INDEX NAME)

RN 258286-87-2 CAPLUS

CN 1-Piperidinecarboximidamide, 4-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-

1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

RN 258286-88-3 CAPLUS

CN 1-Piperazinecarboximidamide, 4-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-

1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

RN 258286-98-5 CAPLUS

CN 1H-Benzimidazol-2-amine, N-phenyl-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 258286-99-6 CAPLUS

CN 1H-Benzimidazol-2-amine, N-phenyl-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-, dihydrochloride (9CI) (CA INDEX NAME)

2 HCl

RN 258287-00-2 CAPLUS

4 –

CN 1H-Benzimidazole, 2-(4-methyl-1-piperazinyl)-1-[1-(1-phenylcycloheptyl)-

piperidinyl]-, trihydrochloride (9CI) (CA INDEX NAME)

⊕3 HCl

RN 258287-07-9 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(1-

pyrrolidinyl)-, dihydrochloride (9CI) (CA INDEX NAME)

@2 HC1

RN 258287-08-0 CAPLUS

CN 1H-Benzimidazole, 2-(4-morpholinyl)-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 258287-09-1 CAPLUS

CN 1H-Benzimidazole, 2-(4-morpholinyl)-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-, dihydrochloride (9CI) (CA INDEX NAME)

@2 HCl

RN 258287-19-3 CAPLUS

CN 1H-Benzimidazole, 2-phenyl-1-[1-(1-phenylcycloheptyl)-4-piperidinyl](9CI) (CA INDEX NAME)

RN 258287-20-6 CAPLUS

CN 1H-Benzimidazole, 2-phenyl-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-, dihydrochloride (9CI) (CA INDEX NAME)

②2 HC1

RN 258287-21-7 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(phenylmethyl)- (9CI) (CA INDEX NAME)

$$\underset{R}{\underbrace{\hspace{1.5cm}}}\underset{Ph}{\underbrace{\hspace{1.5cm}}}$$

RN 258287-22-8 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(phenylmethyl)-, dihydrochloride (9CI) (CA INDEX NAME)

$$\mathbb{R} \longrightarrow \mathbb{P} h$$

@2 HC1

RN 258287-24-0 CAPLUS

CN 1H-Benzimidazole, 2-cyclohexyl-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-,

dihydrochloride (9CI) (CA INDEX NAME)

2 HC1

RN 258287-25-1 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(1-piperidinyl)- (9CI) (CA INDEX NAME)

RN 258287-26-2 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(1-piperidinyl)-, dihydrochloride (9CI) (CA INDEX NAME)

$$N$$
 N
 Ph

②2 HC1

RN 258287-27-3 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-[4-(phenylmethyl)-1-piperazinyl]- (9CI) (CA INDEX NAME)

RN 258287-28-4 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-[4-(phenylmethyl)-1-piperazinyl]-, trihydrochloride (9CI) (CA INDEX NAME)

3 HC1

RN 258287-29-5 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(1-piperazinyl)- (9CI) (CA INDEX NAME)

RN 258287-30-8 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(1-piperazinyl)-, trihydrochloride (9CI) (CA INDEX NAME)

3 HC1

RN 258287-33-1 CAPLUS

CN 1H-Benzimidazol-2-amine, N-cyclohexyl-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 258287-34-2 CAPLUS

CN 1H-Benzimidazol-2-amine, N-cyclohexyl-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-, hydrochloride (9CI) (CA INDEX NAME)

♠x HCl

RN 258287-37-5 CAPLUS

CN 1H-Benzimidazole, 1-[1-[1-(4-fluorophenyl)cycloheptyl]-4-piperidinyl]-2-(4-

methyl-1-piperazinyl)- (9CI) (CA INDEX NAME)

RN 258287-38-6 CAPLUS

CN lH-Benzimidazole, 1-[1-[1-(4-fluorophenyl) cycloheptyl]-4-piperidinyl]-2-(4-

methyl-1-piperazinyl)-, hydrochloride (9CI) (CA INDEX NAME)

@x HCl

RN 258287-39-7 CAPLUS

CN 1H-Benzimidazole, 2-(4-methyl-1-piperazinyl)-1-[1-(1-phenylcyclooctyl)-

4piperidinyl]-, hydrochloride (9CI) (CA INDEX NAME)

Ox HCl

RN 258287-40-0 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(4-piperidinyl)-, trihydrochloride (9CI) (CA INDEX NAME)

3 HC1

RN 258287-54-6 CAPLUS

CN 1H-Benzimidazol-2-amine, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-N-4-piperidinyl-, trihydrochloride (9CI) (CA INDEX NAME)

⊕3 HCl

RN 258287-59-1 CAPLUS

CN Piperazine, 1-acetyl-4-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

RN 258287-60-4 CAPLUS

CN Piperazine, 1-acetyl-4-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, trihydrochloride (9CI) (CA INDEX NAME)

3 HC1

RN 258287-61-5 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(4-phenyl-1-)

piperazinyl)- (9CI) (CA INDEX NAME)

RN 258287-62-6 CAPLUS

1-

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(4-phenyl-

piperazinyl)-, trihydrochloride (9CI) (CA INDEX NAME)

3 HC1

RN 258287-63-7 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(4-pyridinyl)- (9CI) (CA INDEX NAME)

RN 258287-64-8 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(4-pyridinyl)-, trihydrochloride (9CI) (CA INDEX NAME)

3 HCl

RN 258287-67-1 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-methylcyclooctyl)-4-piperidinyl]-2-(4-methyl-1-piperazinyl)-, trihydrochloride (9CI) (CA INDEX NAME)

⊕3 HC1

RN 258287-68-2 CAPLUS
CN 1H-Benzimidazole, 1-[1-(1-methylcyclononyl)-4-piperidinyl]-2-(4-methyl1piperazinyl)- (9CI) (CA INDEX NAME)

RN 258287-69-3 CAPLUS
CN 1H-Benzimidazole, 1-[1-(1-methylcyclononyl)-4-piperidinyl]-2-(4-methyl1piperazinyl)-, trihydrochloride (9CI) (CA INDEX NAME)

○3 HC1

RN 258287-73-9 CAPLUS
CN 1H-Benzimidazole, 4-fluoro-2-(4-methyl-1-piperazinyl)-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 258287-74-0 CAPLUS

CN 1H-Benzimidazole, 5-fluoro-2-(4-methyl-1-piperazinyl)-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 258287-75-1 CAPLUS

CN 1H-Benzimidazole, 5-fluoro-2-(4-methyl-1-piperazinyl)-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-, trihydrochloride (9CI) (CA INDEX NAME)

3 HCl

RN 258287-76-2 CAPLUS

CN 1H-Benzimidazole, 6-fluoro-2-(4-methyl-1-piperazinyl)-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 258287-77-3 CAPLUS

CN 1H-Benzimidazole, 6-fluoro-2-(4-methyl-1-piperazinyl)-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-, trihydrochloride (9CI) (CA INDEX NAME)

3 HCl

RN 258287-78-4 CAPLUS

CN 1H-Benzimidazole, 2-(4-methyl-1-piperazinyl)-1-[1-(1-phenylcyclohexyl)-4piperidinyl]- (9CI) (CA INDEX NAME)

RN 258287-79-5 CAPLUS

CN 1H-Benzimidazole, 2-(4-methyl-1-piperazinyl)-1-[1-(1-phenylcyclohexyl)-4-

piperidinyl]-, trihydrochloride (9CI) (CA INDEX NAME)

3 HC1

RN 258287-83-1 CAPLUS

CN 4-Piperidinone, 1-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

RN 258287-84-2 CAPLUS

CN 4-Piperidinone, 1-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

2 HCl

RN 258287-85-3 CAPLUS

CN 4-Piperidinol, 1-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

RN 258287-86-4 CAPLUS

CN 4-Piperidinol, 1-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

©2 HC1

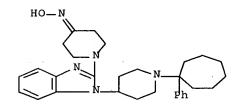
CN 4-Piperidinone, 1-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, oxime (9CI) (CA INDEX NAME)

RN 258287-88-6 CAPLUS

CN 4-Piperidinone, 1-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, oxime, (2E)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 258287-87-5 CMF C30 H39 N5 O



CM 2

CRN 110-17-8 CMF C4 H4 O4 CDES 2:E

Double bond geometry as shown.

RN 258287-89-7 CAPLUS

CN 4-Piperidinamine, 1-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, trihydrochloride (9CI) (CA INDEX NAME)

3 HC1

RN 258288-00-5 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-methylcyclooctyl)-4-piperidinyl]-2-(1-piperazinyl)- (9CI) (CA INDEX NAME)

RN 258288-01-6 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-methylcyclooctyl)-4-piperidinyl]-2-(1-piperazinyl)-, trihydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ & &$$

3 HCl

RN 258288-03-8 CAPLUS

CN 1-Piperidinecarboximidamide, 4-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-

1H-benzimidazol-2-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

2 HC1

RN 258288-04-9 CAPLUS

CN 1-Piperazinecarboximidamide, 4-[1-[1-(1-methylcyclooctyl)-4-piperidinyl]-

1H-benzimidazol-2-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

2 HCl

RN 258288-05-0 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(4-piperidinyloxy)-, dihydrochloride (9CI) (CA INDEX NAME)

②2 HCl

CN 1H-Benzimidazol-2-amine, N-3-azetidinyl-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-, trihydrochloride (9CI) (CA INDEX NAME)

()3 HCl

RN 258288-16-3 CAPLUS

CN 1H-Benzimidazol-2-amine, 1-[1-(1-methylcycloheptyl)-4-piperidinyl]-N-4-piperidinyl- (9CI) (CA INDEX NAME)

RN 258288-18-5 CAPLUS

CN 1H-Benzimidazol-2-amine, 1-[1-(1-methylcycloheptyl)-4-piperidinyl]-N-4-piperidinyl-, dihydrochloride (9CI) (CA INDEX NAME)

@2 HC1

RN 258288-22-1 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-methylcycloheptyl)-4-piperidinyl]-2-(4-piperidinyl)- (9CI) (CA INDEX NAME)

RN 258288-24-3 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-methylcycloheptyl)-4-piperidinyl]-2-(4-piperidinyl)-, dihydrochloride (9CI) (CA INDEX NAME)

2 HCl

RN 258288-26-5 CAPLUS

CN 1H-Benzimidazole, 1-[1-[1-(1-methylethyl)cycloheptyl]-4-piperidinyl]-2-(1piperazinyl)- (9CI) (CA INDEX NAME)

$$N$$
 N
 P_{r-i}

RN 258288-28-7 CAPLUS

CN 1H-Benzimidazole, 1-[1-[1-(1-methylethyl)cycloheptyl]-4-piperidinyl]-2-(1-piperazinyl)-, trihydrochloride (9CI) (CA INDEX NAME)

●3 HC1

RN 258288-32-3 CAPLUS
CN 4-Piperidinamine, 1-[1-[1-(1-phenyl-4-cyclohepten-1-yl)-4-piperidinyl]1Hbenzimidazol-2-yl]- (9CI) (CA INDEX NAME)

RN 258288-33-4 CAPLUS
CN 4-Piperidinamine, 1-[1-[1-(1-phenyl-4-cyclohepten-1-yl)-4-piperidinyl]1Hbenzimidazol-2-yl]-, trihydrochloride (9CI) (CA INDEX NAME)

⊕3 HC1

RN 258288-40-3 CAPLUS
CN 4-Piperidinamine, 1-[1-[1-[1-(1-methylethyl)cycloheptyl]-4-piperidinyl]1Hbenzimidazol-2-yl]- (9CI) (CA INDEX NAME)

RN 258288-42-5 CAPLUS
CN 4-Piperidinamine, 1-[1-[1-(1-methylethyl)cycloheptyl]-4-piperidinyl]1Hbenzimidazol-2-yl]-, trihydrochloride (9CI) (CA INDEX NAME)

$$H_2N$$
 N
 N
 P_{r-i}

⊕3 HC1

RN 258288-44-7 CAPLUS

CN 1,4-Cyclohexanediamine, N-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.

RN 258288-46-9 CAPLUS

CN 1,4-Cyclohexanediamine, N-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, trihydrochloride, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.

RN 258288-50-5 CAPLUS

CN 4-Piperidinamine, 1-[1-[1-(1-ethenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]- (9CI) (CA INDEX NAME)

RN 258288-51-6 CAPLUS

CN 4-Piperidinamine, 1-[1-[1-(1-ethenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

O2 HC1

RN 258288-56-1 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenyl-4-cyclohepten-1-yl)-4-piperidinyl]-2-(1-piperazinyl)- (9CI) (CA INDEX NAME)

RN 258288-57-2 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenyl-4-cyclohepten-1-yl)-4-piperidinyl]-2-(1-piperazinyl)-, trihydrochloride (9CI) (CA INDEX NAME)

⊙3 HC1

RN 258288-74-3 CAPLUS

CN 2-Pyrrolidinecarboxamide, N-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, dihydrochloride, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

2 HCl

RN 258288-79-8 CAPLUS

CN Cyclopentanecarboxamide, 1-amino-N-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

O2 HC1

RN 258289-05-3 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-(1-pyrrolidinyl)- (9CI) (CA INDEX NAME)

RN 258289-06-4 CAPLUS

CN 1H-Benzimidazole, 4-fluoro-2-(4-methyl-1-piperazinyl)-1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-, trihydrochloride (9CI) (CA INDEX NAME)

O3 HC1

IT

258288-88-9P 258288-89-0P 258288-90-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. of 2-substituted-1-piperidylbenzimidazoles as ORL1 receptor agonists)

RN 258288-83-4 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-[1-(phenylmethyl)-4-piperidinyl]- (9CI) (CA INDEX NAME)

RN 258288-86-7 CAPLUS

CN 1-Piperidinecarboxylic acid, 4-[[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

RN 258288-87-8 CAPLUS

CN 1-Piperidinecarboxylic acid, 4-[[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]amino]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 258288-88-9 CAPLUS

CN Carbamic acid, [1-[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]-4-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 258288-89-0 CAPLUS

CN 1H-Benzimidazole, 1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-2-[[1-(phenylmethyl)-4-piperidinyl]oxy]- (9CI) (CA INDEX NAME)

RN 258288-90-3 CAPLUS

CN 1-Piperidinecarboxylic acid, 4-[[1-[1-(1-phenylcycloheptyl)-4-piperidinyl]-1H-benzimidazol-2-yl]oxy]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

=> d 11; d his; log y L1 HAS NO ANSWERS L1 STR

Structure attributes must be viewed using STN Express query preparation.

(FILE 'REGISTRY' ENTERED AT 16:11:17 ON 03 DEC 2001)

DEL HIS Y

L1 STRUCTURE UPLOADED

L2 8 S L1

L3 141 S L1 FUL

FILE 'CAPLUS' ENTERED AT 16:14:42 ON 03 DEC 2001

L4 2 S L3

FILE 'BEILSTEIN' ENTERED AT 16:16:37 ON 03 DEC 2001

L5 0 S L1

L6 0 S L1 FUL

FILE 'MARPAT' ENTERED AT 16:17:07 ON 03 DEC 2001

L7 0 S L1

L8 2 S L1 FUL

L9 0 S L8 NOT L4

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	94.62	239.69
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-1.18

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